

## PDB12

**RESOURCE UTILIZATION AND ECONOMIC COST OF CARE BASED ON A RANDOMIZED TRIAL OF V.A.C.® THERAPY IN THE TREATMENT OF DIABETIC FOOT ULCER WOUNDS**Apelqvist J<sup>1</sup>, Armstrong DG<sup>2</sup>, Lavery LA<sup>3</sup>, Boulton AJ<sup>4</sup>, Keith MS<sup>5</sup><sup>1</sup>University Hospital of Malmö, Malmö, Sweden, <sup>2</sup>Rosalind Franklin University of Medicine and Science, Chicago, IL, USA, <sup>3</sup>Scott & White, Georgetown, TX, USA, <sup>4</sup>Manchester Royal Infirmary, Manchester, UK, <sup>5</sup>KCI USA, San Antonio, TX, USA

**OBJECTIVES:** To evaluate resource utilization and direct costs of care for patients treated with negative pressure wound therapy (NPWT) compared to standard moist wound therapy (MWT) in the treatment of partial diabetic foot amputation wounds. **METHODS:** 162 diabetic subjects with post-amputation ulcers were enrolled into a sixteen-week, randomized clinical trial. Patients randomized to NPWT (n = 77) received therapy with dressing changes every 48 h. Control patients (n = 85) received standard MWT according to consensus guidelines. Resource utilization and procedures were analyzed using a standardized protocol. **RESULTS:** More surgical procedures were performed in the MWT group versus the NPWT group (120 vs. 43, p < 0.001). The average number of dressing changes performed per patient was 118.0 (range 12–226) for MWT compared with 41 (range 6–140) for NPWT (p = 0.0001). The MWT group had an average of 11 (range 0–106) outpatient treatment visits during the study period compared with 4 (range 0–47) in the NPWT group (p < 0.05). The average total direct cost per patient treated for 8 weeks or longer (independent of clinical outcome) was \$27,270 and \$36,096 in the NPWT and MWT group, respectively (incremental cost difference = \$8826). Proportionally, the highest costs were related to inpatient stay, antibiotics and wound dressing treatment (materials and staff). The average total cost to achieve healing was \$25,954 for NPWT patients (N = 43) compared with \$38,806 for the MWT (n = 33) group (incremental difference = \$12,852). **CONCLUSION:** Treatment of diabetic wounds using NPWT compared to MWT was associated with substantially lower resource utilization with regard to outpatient visits, dressing changes, and surgical procedures. Overall direct treatment costs were also substantially different as treatment costs with NPWT were on average \$8,800 less than with MWT. In summary, this study revealed treatment with NPWT resulted in a greater proportion of patients obtaining wound healing at a lower overall cost of care.

## PDB13

**COPAYMENT LEVEL AND MEDICATION ADHERENCE IN TYPE 2 DIABETES PATIENTS MANAGED WITH INSULIN ASPART PEN THERAPY**Lee WC<sup>1</sup>, Balu S<sup>2</sup>, Cobden D<sup>3</sup>, Joshi AV<sup>3</sup>, Pashos CL<sup>2</sup><sup>1</sup>Abt Associates Inc, Bethesda, MD, USA, <sup>2</sup>Abt Associates Inc, Lexington, MA, USA, <sup>3</sup>Novo Nordisk Inc, Princeton, NJ, USA

**OBJECTIVES:** Elevating drug copayments has been found to negatively affect medication adherence among patients with chronic illness. This study sought to assess the correlation between prescription drug copayment and medication adherence upon initiating insulin aspart pen therapy from previous vial/syringe use among type 2 diabetes patients. **METHODS:** A pre-post conversion design was adopted using an integrated medical and pharmacy claims database from >50 managed care plans in the United States. Adults diagnosed with type 2 diabetes who converted to insulin aspart pen therapy (NovoLog® FlexPen®) [ie, the index event] from either human or analog insulin vials between July 2001 and December 2002 with no prior use of FlexPen® for six months were identified and retrospectively analyzed. Association between post-index medication

adherence [medical possession ratio (MPR) ≥ 80%] and drug copayment after adjusting for differences in baseline demographics, pre-index copayment, and clinical comorbidities and complications was analyzed through a logistic regression model. **RESULTS:** A total of 670 subjects were identified [mean age: 45.7 years (SD: 13.8 years)]. Drug copayments increased by approximately \$2 (\$13.2 vs. \$11.0) after initiating FlexPen® compared to pre-index vial/syringe use. Logistic regression model results showed that individuals with higher drug copayments had a significantly lower medication adherence (MPR < 80%) as compared to individuals with lower copayments. Odds of adherence being ≥ 80% decreased by 17% among individuals with \$21 and above drug copayment [Odds Ratio: 0.83 (0.71–0.94); p < 0.05], while the odds decreased by 10% among individuals with copayments ranging from \$11–\$20 [Odds Ratio: 0.90 (0.80–0.99); p < 0.05], as compared to individuals with drug copayments ≤ \$10. **CONCLUSION:** Increased drug copayments were found to be a barrier to improved medication adherence among type 2 diabetes patients converting to insulin analog pen therapy. Implications of copayment variation on health outcomes in relation to medication adherence should be researched.

## PDB14

**ECONOMIC OUTCOMES ASSOCIATED WITH SWITCHING TO INSULIN PEN THERAPY IN MEDICAID TYPE 2 DIABETES PATIENTS: A RETROSPECTIVE DATABASE ANALYSIS**Pawaskar MD<sup>1</sup>, Camacho F<sup>2</sup>, Anderson RT<sup>2</sup>, Cobden D<sup>3</sup>, Joshi AV<sup>3</sup>, Balkrishnan R<sup>1</sup><sup>1</sup>The Ohio State University College of Pharmacy, Columbus, OH, USA, <sup>2</sup>Wake Forest University School of Medicine, Winston Salem, NC, USA, <sup>3</sup>Novo Nordisk Inc, Princeton, NJ, USA

**OBJECTIVES:** Outcomes in patients with type 2 diabetes may vary according to the type of pharmacotherapy. The study examined the differences in medication adherence and the total health care costs in patients with type 2 diabetes who switched from oral anti-diabetic medications (OAD) to insulin vial/syringe therapy vs. those who converted from OAD to insulin pen therapy. **METHODS:** The study comprised of patients with type 2 diabetes who were enrolled in the North Carolina Medicaid program from September 24, 2001 to July 18, 2006. Patients who switched from OAD to syringe (n = 1162) were pair-matched with those who switched from OAD to pen group by age, total health care costs and diabetes related costs. All included patients had complete enrollment for 24 months of follow up. Multiple linear regression models were used to predict the impact switching therapies on individual outcomes (i.e. total health care costs and medication adherence) for each cohort using propensity scores as covariates. The adjusted means were calculated to determine the group differences across different outcomes. **RESULTS:** Medication adherence was comparable for patients who switched to pen vs. syringe (53% vs. 50% respectively). The total health care costs for patients on pen therapy was significantly lower than those on syringe insulin ((\$14,857.42 vs. \$31,764.78 respectively; p < 0.001). considerable costs savings with pen therapy were reflected in hospital costs (1195.93 vs. 4965.31 respectively; p < 0.01), clinic costs (\$1086.80 vs. \$3685.17 respectively; p < 0.05), diabetes related costs (7324.37 vs. 13,762.21 respectively; p < 0.01) and outpatient costs (7795.98 vs. 13,103.51 respectively; p < 0.01). **CONCLUSION:** Even though medication adherence was similar in both the groups, switching to pen therapy reflected significant reduction in health care services utilizations and associated costs. Health care professionals and policy makers should consider initiating pen therapy in patients who fail to respond to OADs.